

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2 Exhibit)

June 2001

BUDGET ACTIVITY

5 - ENG MANUFACTURING DEV

PE NUMBER AND TITLE

0604609A - Smoke, Obscurant and Target Defeating Sys ED

COST (In Thousands)	FY 2000 Actual	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	896	3428	7920	0	0	0	0	0	0	0
198 TARGET DEFEATING SYSTEM	0	0	332	0	0	0	0	0	0	0
200 SMOKE/OBSCURANT SYSTEM	896	3428	7588	0	0	0	0	0	0	0

A. Mission Description and Budget Item Justification:

PLEASE NOTE: This administration has not addressed FY2003-2007 requirements. All FY 2003-2007 budget estimates included in this book are notional only and subject to change.

U.S. Forces must be able to effectively neutralize and degrade energy weapon systems and electro-optical systems/smart weapons that operate in the full range of the electro-magnetic spectrum. This program element supports the conduct of Engineering and Manufacturing Development (EMD) of logistically supportable, high performance smoke and obscurant agents, munitions, and devices to improve the survivability of the combined armed force and complement combined weapons systems. Improvements are sought across the entire multi-spectral range from visual through infrared (IR) and millimeter wavelengths (MMW) radar for incorporation into self-protection large area and projected smoke systems. The smoke obscuration technologies supported by this program element enhance smoke systems as force multipliers. Program supports critical management studies and analyses that are conducted on a continuing basis to ensure that engineering and manufacturing development efforts are targeted against the emerging threat. Also supports the conduct of EMD in smoke and obscurant agents, munitions, and devices to improve the survivability of the combined armed force, complement combined weapons systems, and enhance force effectiveness and combat power. Systems developed in this PE primarily support the Legacy-to-Objective transition path of the Transformation Campaign Plan (TCP).

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<u>B. Program Change Summary</u>	FY 2000	FY 2001	FY 2002	FY 2003
President's Previous Budget (FY 2001 PB)	918	3461	4621	0
Appropriated Value	918	3461	0	
Adjustments to Appropriated Value (Inflation)		0	0	
a. Congressional General Reductions		0	0	
b. SBIR / STTR	-17	0	0	
c. Omnibus or Other Above Threshold Reductions	-3		0	
d. Below Threshold Reprogramming			0	
e. Rescissions	-2	-33	0	
Adjustments to Budget Years Since FY2001 PB		0	3299	
Current Budget Submit (FY 2002/2003 PB)	896	3428	7920	0

FY02: Increase of \$3.299K supports the program to integrate Millimeter Wave (MMW) obscuration into the M56 Smoke Generator System.

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BUDGET ACTIVITY 5 - ENG MANUFACTURING DEV				PE NUMBER AND TITLE 0604609A - Smoke, Obscurant and Target Defeating Sys ED				PROJECT 200			
COST (In Thousands)		FY 2000 Actual	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
200	SMOKE/OBSCURANT SYSTEM	896	3428	7588	0	0	0	0	0	0	0
<p>A. Mission Description and Budget Item Justification:Project 200, smoke, obscurant systems supports the conduct of Engineering and Manufacturing Development (EMD) in smoke and obscurant agents, munitions, and devices to improve survivability of the combined arms force, complement combined weapons systems, and enhance force effectiveness and combat power. Funding supports the development of millimeter wavelength (MMW) radar obscuration for installation on the M56 and any other required vehicle platforms. The MMW obscuration can obscure a target from emerging threat systems which use x-ray type sensors. It can also create decoy signals to confuse these threat systems. This developmental effort supports the Legacy-to-Objective transition path of the Transformation Campaign Plan (TCP).</p> <p><u>FY 2000 Accomplishments</u></p> <ul style="list-style-type: none"> 151 MMW - Prepared IPR package and conducted a successful Milestone I/II program review. 145 MMW - Prepared contract package, issued solicitation, and awarded full and open, competitive contract. 283 MMW - Conducted field trials and an evaluation of prototype obscurant materials against threat radar systems. 317 MMW - Initiated contract for prototype designs and integration with vehicle platforms. <p>Total 896</p> <p><u>FY 2001 Planned Program</u></p> <ul style="list-style-type: none"> 1600 MMW - Continues engineering design program, including logistical requirement studies and cost alternative studies. 1061 MMW - Initiates assembly of engineering development and test prototype obscurant systems onto the M56 smoke system. 300 MMW - Conducts analyses of alternative methods for the production and storage of MMW materials. 374 MMW - Initiates toxicological and environmental studies required for materiel release of MMW materials. 93 SBIR/STTR <p>Total 3428</p>											

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<p><u>FY 2002 Planned Program</u></p> <ul style="list-style-type: none"> • 2700 MMW - Continues engineering design program including any necessary redesign following engineering design test, logistics program evaluation, and material evaluation. • 1300 MMW - Conducts contractor engineering design test on components and system. • 1300 MMW - Fabricates and installs two MMW systems on two M56 smoke systems for conducting Government engineering design tests. (Estimated value \$150K each MMW prototype) • 1000 MMW - Procures necessary MMW material for contractor and Government tests. • 525 MMW - Continues toxicological and environmental studies. • 763 MMW - Initiates planning efforts for integration of MMW components into candidate armored vehicle and other Transformation Campaign vehicle platforms. <p>Total 7588</p>		

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PROJECT

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<u>B. Other Program Funding Summary</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>To Compl</u>	<u>Total Cost</u>
RDTE, A Budget Activity 2, PE 0602622A, Project A552 Smoke/Novel Munitions	3573	3497	3561	0	0	0	0	0	0	0
RDTE,A Budget Activity 4, PE 0603627A, Smoke. Obscurant and Target Defeat	0	0	0	0	0	0	0	0	0	0
Other Procurement Army, OPA3, M99103, M56 Smoke Generator	12303	14287	23547	0	0	0	0	0	0	0
Other Procurement Army, OPA3, M99107, M58 Smoke System	3405	5534	0	0	0	0	0	0	0	0
Other Procurement Army, OPA3, G71300, M6 Discharger	2225	0	0	0	0	0	0	0	0	0

C. Acquisition Strategy:Project D200 - Smoke/Obscurants: The Millimeter Wave smoke generation system began engineering development in FY2000 with a full and open competitive contract for engineering design, construction, and test of prototype systems mounted on the M56 smoke system. In FY2002, a new effort may be initiated to design and test the integration of obscurant systems into other desired armored platforms. This effort will be guided solely by the selection of the specific vehicle platforms required to meet changing Army requirements and the Transformation Campaign Plan.

<u>D. Schedule Profile</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
MMW - Milestone I/II, Program initiation	4Q			0	0	0	0	0
MMW - Initiate RDTE competitive contract	4Q			0	0	0	0	0
MMW - Conduct engineering design testing (Contractor)		4Q	1-4Q	0	0	0	0	0
MMW - Conduct engineering design testing (Government/User Jury)				0	0	0	0	0
MMW - Conduct Production Qualification Test (PQT)				0	0	0	0	0
MMW - Conduct Initial Operational Test and Evaluation (IOTE)				0	0	0	0	0
MMW - Conduct Milestone III and system acceptance				0	0	0	0	0

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D. Schedule Profile (continued)	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007
MMW - Initiate engineering modeling and design efforts on candidate armored vehicle platforms			1-2Q	0	0	0	0	0
MMW - Initiate construction of prototype systems on armored or robotic platforms				0	0	0	0	0

ARMY RDT&E COST ANALYSIS(R-3)									June 2001			
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I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . MMW - Hardware Development	C/CPFF	Titan Industries, Deland, Florida	301	2411	1Q	4418	1Q	0	0	0	0	0
b . MMW - Hardware design for armored platform	C/CPFF	Titan Industries, Deland, Florida	0	0		250	1Q	0	0	0	0	0
c . MMW - Armored or robotic system integration planning	In house	SBCCOM, APG, MD	0	0		300	1Q	0	0	0	0	0
Subtotal:			301	2411		4968		0		0	0	0
II. Support Cost	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . MMW - Environmental and Toxicological studies	In house effort	SBCCOM, APG, MD	0	374	1Q	525	1Q	0	0	0	0	0
b . MMW - Human factors design efforts on other platforms	In house effort	SBCCOM, APG, MD	0	0		60	1Q	0	0	0	0	0

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II. Support Cost (continued)	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			0	374		585		0		0	0	0
III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . MMW - Prototype evaluation	In house	SBCCOM, APG, MD	183	50	1Q	0		0	0	0	0	0
b . MMW - Engineering design testing - Contractor	C/CPFF	Titan Industries, Deland, Florida	100	0		1200	1Q	0	0	0	0	0
Subtotal:			283	50		1200		0		0	0	0

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IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . MMW - Project Management Personnel	In-house	SBCCOM, Edgewood, MD	312	593	1Q	707	1Q	0	0	0	0	0
b . MMW - Project Management Personnel for robotic or armored platforms	In-house	SBCCOM, Edgewood, MD	0	0		128	1Q	0	0	0	0	0
Subtotal:			312	593		835		0		0	0	0
Project Total Cost:			896	3428		7588		0		0	0	0